

OCS POLICY COMMITTEE MAY 2002

Floating Production, Storage, and Offloading System



MMS Position Regarding FPSOs

- OTC 8768; OTC 10701
 - “MMS will need to be assured that the use of [FPSO] technology does not increase the general risk to the environment over other alternatives”
- Environmental, Technical, Conservation challenges must be addressed
- No long term flaring; no reinjection without commitment to produce later

FPSO Regulatory Model

Initiatives considered for adoption (guidelines, industry standards, policies, review strategies, RP's, research, etc.)

MMS; USCG; Industry
Interactive Process

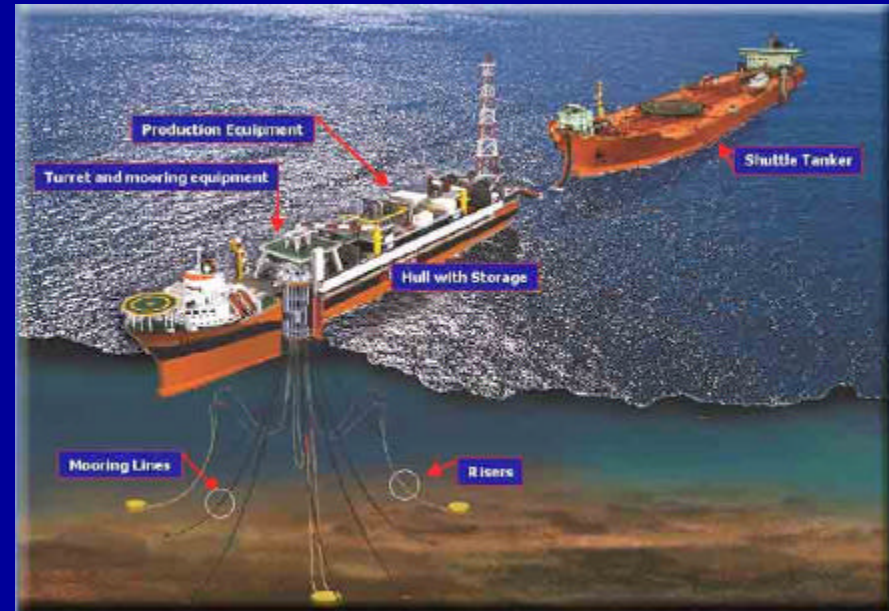
Level of certainty increases
as move to the right

MMS Regulatory Strategy
for FPSO's in the GOM

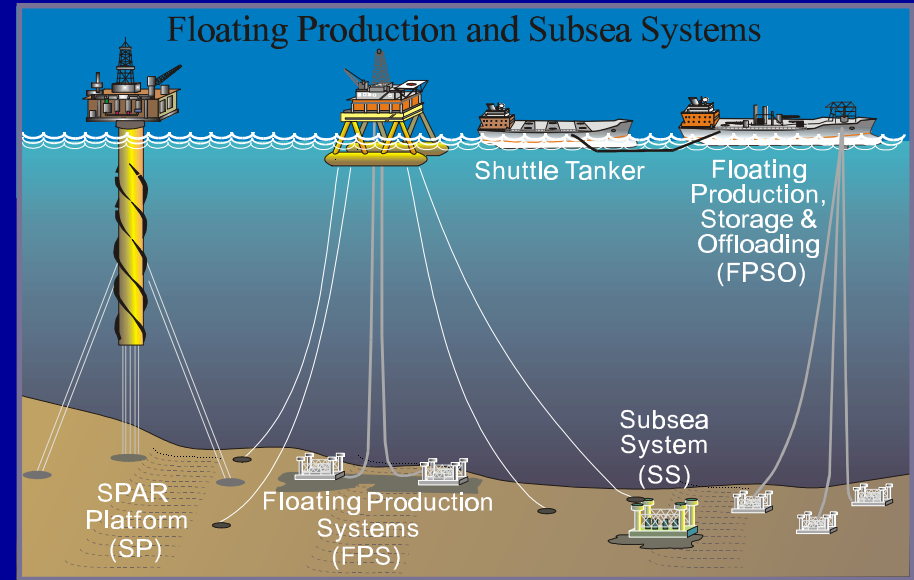
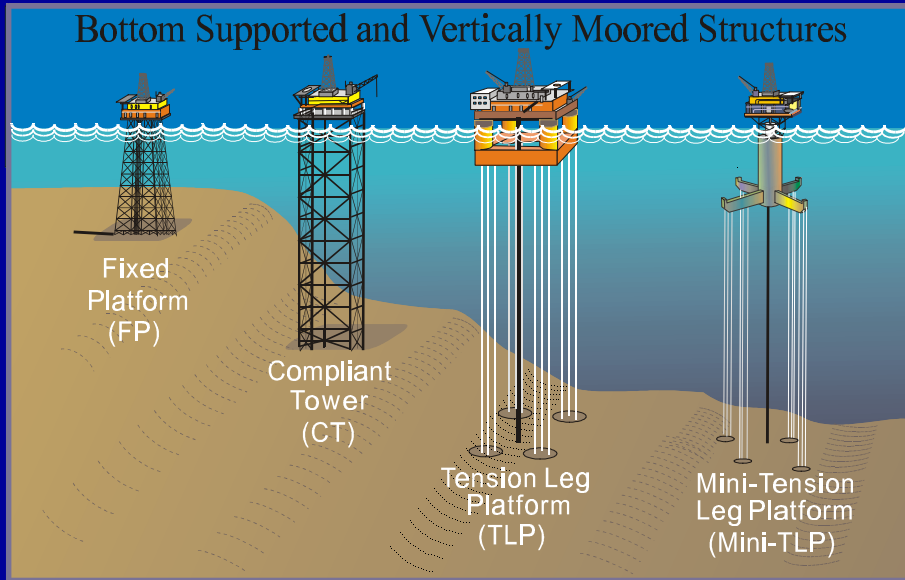
FPSO Configuration

Analyzed in EIS and CRA

- 1MM bbl oil storage
- Processing
 - up to 300,000 BOPD
 - up to 300MM CFGPD
- Multi-well subsea cluster(s)
- Transport
 - 500,000 bbl shuttle tankers
 - gas pipeline



Comparative Risk Analysis



- Risk Assessment of an FPSO in GOM (Bechtel '99)
- Consistent, objective study of overall system risks
- Existing deepwater systems provide known risks
 - designed/operated under existing standards & regulations
 - exhibit satisfactory operating experience

CRA Conclusions

- No significant difference in
 - fatality risks
 - oil-spill risks
- Avg. total volume of oil spilled <8000 bbls
 - dominated by rare, large volume event
- Transportation system is highest contributor to overall spill risk in all systems studied
- Uncertainty
 - attributed to limited deepwater performance data

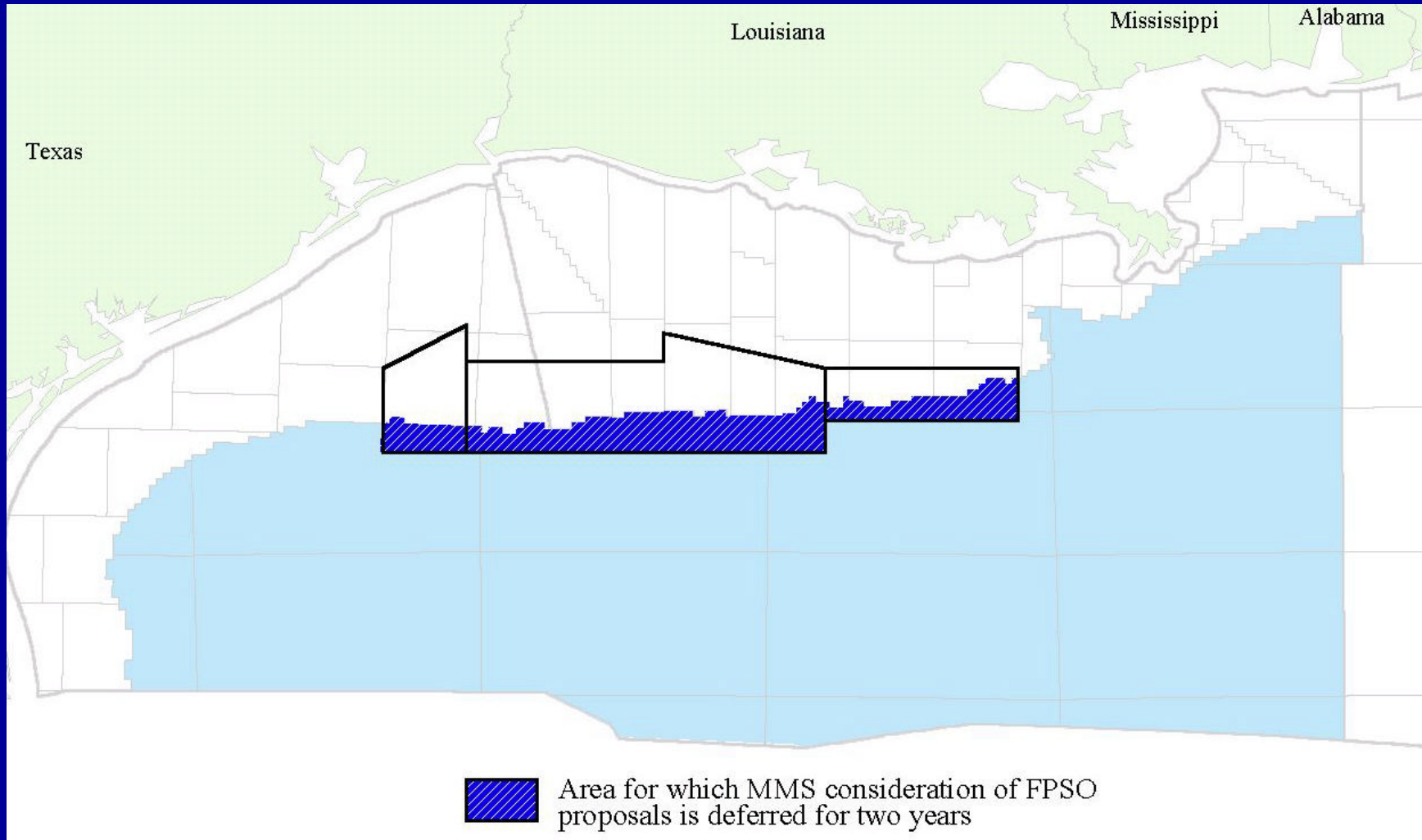
EIS Findings

- Potential site-specific impacts from routine operations essentially the same as for currently accepted systems
- Risks of accidental events comparable to existing production systems/pipelines
 - “...the net gain in risk would be negligible”
 - frequency analysis; OSRA; response analysis
- Potential emission impacts to Breton NWA
 - modeled diesel-powered tanker idling during offloading; location dependent

Record of Decision

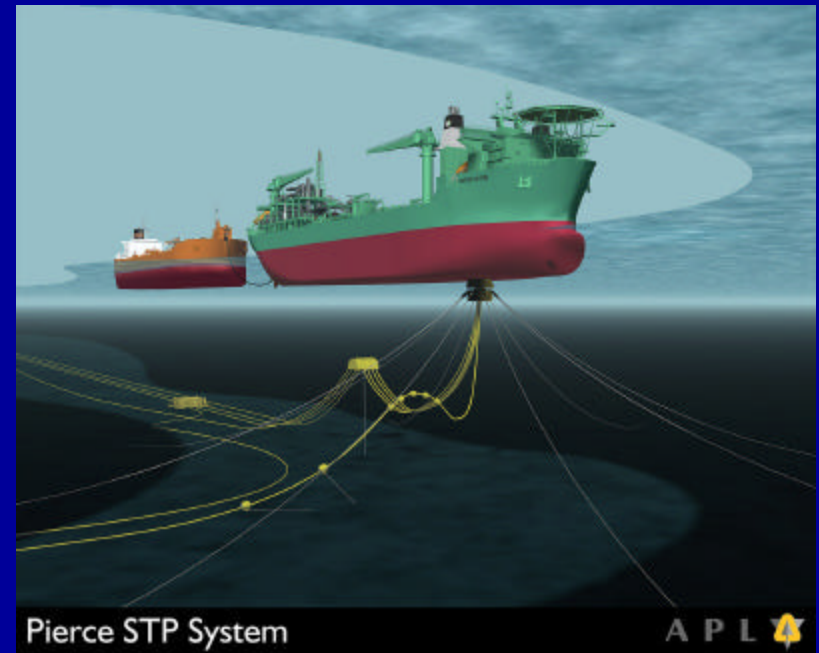
- Summarizes EIS findings
- Summarizes other considerations
 - CRA; regulations; EIS comments
- Identifies environmentally preferable alternative(s)
- Documents and explains MMS decision

Lightering Prohibited Area



Existing Regulatory Processes

- Development Operations Coordination Document
 - the “development plan”
 - development intentions
 - public input; environmental
 - conservation review
- Other existing plans, permits, submittals
- Deepwater Operations Plan



Capability exists for review of FPSO-based development

Proposed Subpart B Enhancements

Subpart B - “Plan Submittal Requirements”

- Incorporate DWOP
- Curtailment of operations planning
- Hazards analysis
- Conservation review
 - full development
 - premature abandonment



Proposed Subpart I Enhancements

Subpart I - “Platforms and Structures”

- Current
 - design, fabrication, installation, use, inspection, and maintenance for fixed facilities
 - application process; verification program (CVA)
- Rewrite
 - fixed and floating production facilities
 - streamline review process
 - benefit through use of recognized standards
 - RP 2FPS; RP 2A; expanded role of CVA

Proposed Incorporation of Industry Standards

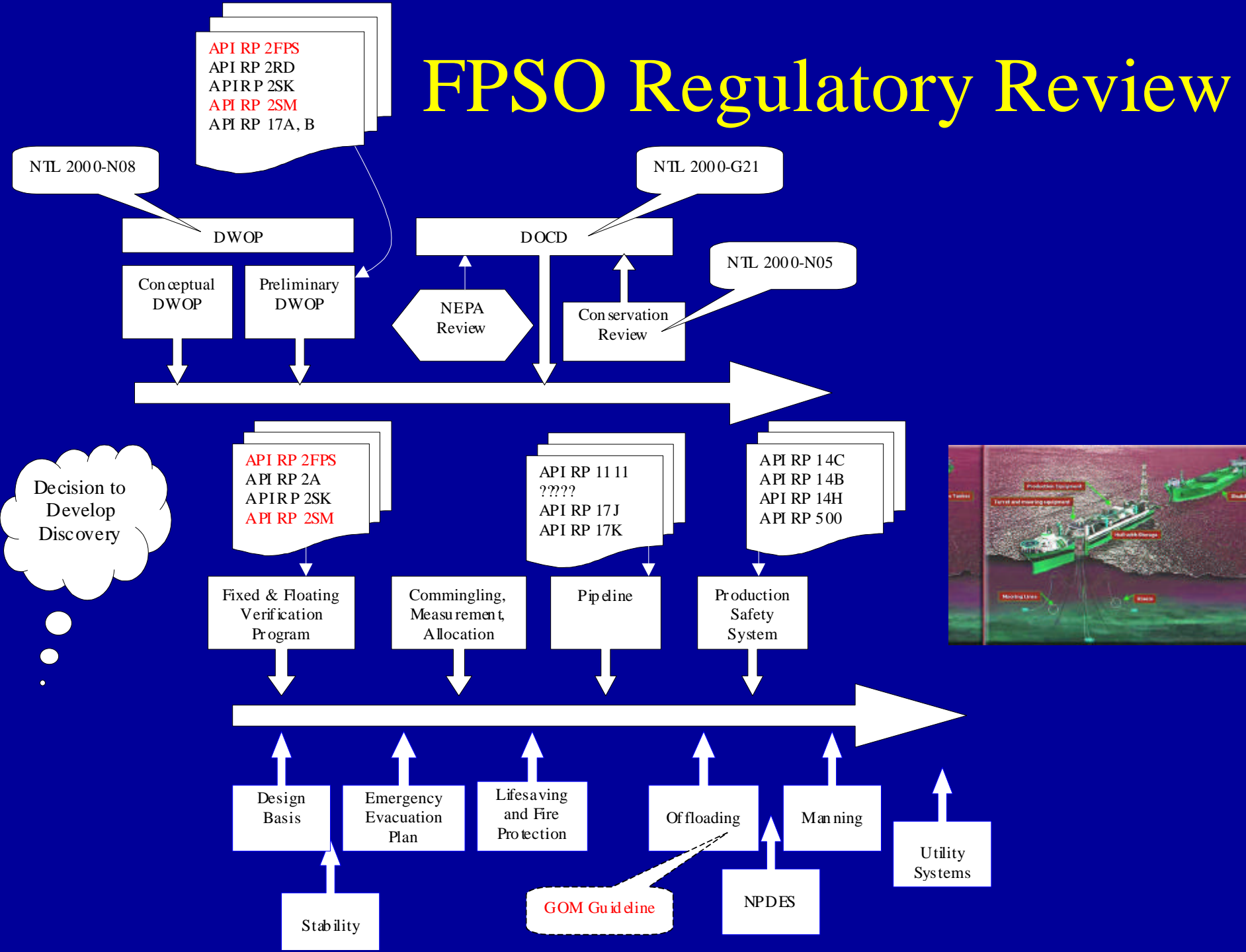
- API RP 2FPS - *Planning, Design, and Construction of Floating Production Systems*
- API RP 2RD - *Design of Marine Risers for Floating Production Systems and TLP's*
- API RP 2SK - *Design and Analysis of Stationkeeping Systems*
- API RP 2SM - *Synthetic Fiber Rope Moorings*
- API RP 14J - *Hazard Analysis for Offshore Production Facilities*

Final Rule Publication (Subpart I + RPs) - October 2002?

“High Level” Roadmap of Permit Actions for FPSOs

- Developing effort
- Attempt to show all major permitting actions
 - MMS; USCG; others
- Identify standards, guidelines, etc. and their status with unique identifiers

FPSO Regulatory Review



Floating Production, Storage, and Offloading (FPSO) Systems

MMS Status:

- The final EIS was released in January 2001.
- A Record of Decision, which is the culmination of the EIS process, was signed on December 31, 2001 and answered January 2, 2002.
- Record of decision approves the concept to use an FPSO's in the Gulf.
- Will not consider FPSO's in the Coast Guard lightering

Floating Production, Storage, and Offloading (FPSO) Systems

MMS Status:

- No application has been filed to date
- When filed:
 - A complete Technical and Safety Review
 - A site specific Environmental Assessment